

~~each individual WDM transmission channel of said plurality comprising a single~~
frequency optical source for generating light within said each WDM transmission channel for
transmitting an optical signal on a unique wavelength within a designated range of
wavelengths; and

at least one coherence division multiplexed (CDM) transmission unit disposed within
said at least one individual WDM transmission channel, said at least one CDM unit
comprising:

a second plurality of CDM transmission channels,

a broadband optical source for generating light within said at least one WDM
transmission channel for transmitting said CDM optical signals via said second plurality of
CDM transmission channels,

a light splitter for dividing said light generated by said broadband optical source into
one reference path and a number of optical paths equal to a number of CDM transmission
channels,

each said CDM transmission channel comprising a phase modulator and an optical
delay line interconnected therebetween, said optical delay line comprising a temperature
~~sensitive component for stabilization of phase drift caused by environmental fluctuations.~~